

Application No. 10/669,136
Preliminary Amendment

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claim in the application:

Listing of Claims:

Claims 1-10 (canceled)

Claim 11 (new): A knee brace for supporting a knee joint, said knee brace having a substantially rigid upper member for attachment to a thigh, a substantially rigid lower member for attachment to a calf, and first and second hinges located about an axis of said knee joint for connecting said upper and lower members together, said upper member comprising:

a substantially straight upper lateral segment having a top end and a bottom end, said upper lateral segment extending vertically along a lateral portion of the thigh, said bottom end of said upper lateral segment being coupled to said first hinge;

a substantially straight upper medial segment having a top end and a bottom end, said upper medial segment extending vertically along a medial portion of the thigh, said bottom end of said upper medial segment being coupled to said second hinge, said upper medial segment being shorter in length than said upper lateral segment;

an upper curved segment extending horizontally around a front portion of the thigh, said upper curved segment having a lateral end and a medial end, said lateral end being joined to said top end of said upper lateral segment; and

an angled segment having an upper end joined to said medial end of said upper curved segment, said angled segment having a lower end joined to said upper end of said upper medial segment, said angled segment being configured for circumventing a medial superior region of the thigh; said lower member comprising:

a substantially straight lower lateral segment having a top end and a bottom end, said lower lateral segment extending vertically along a lateral portion of the calf, said top end of said lower lateral segment being coupled to said first hinge;

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a substantially straight lower medial segment having a top end and a bottom end, said lower medial segment extending vertically along a medial portion of the calf, said top end of said lower medial segment being coupled to said second hinge; and

a lower curved segment extending around the calf from said bottom end of said lower lateral segment to said bottom end of said lower medial segment.

Claim 12 (new): The knee brace of claim 11, wherein said first and second hinges are polycentric hinges.

Claim 13 (new): The knee brace of claim 11, wherein said upper and lower members are each formed as a continuous rigid unit.

Claim 14 (new): The knee brace of claim 11, wherein said angled segment and said upper curved segment intersect at an angle between about 30 degrees and 60 degrees.

Claim 15 (new): The knee brace of claim 11, wherein said angled segment extends around the front portion of the thigh by about 40 degrees to 80 degrees.

Claim 16 (new): The knee brace of claim 11, further comprising first and second straps for securing said upper member to the thigh, said first strap being substantially aligned with said upper curved segment.

Claim 17 (new): The knee brace of claim 16, further comprising third and fourth straps, said fourth strap being substantially aligned with said lower curved segment.

Claim 18 (new): The knee brace of claim 11, wherein no structure is provided along the thigh in the region below the upper curved segment and the angled segment.

Claim 19 (new): The knee brace of claim 11, wherein said upper and lower members are each made of a durable plastic.

Claim 20 (new): A knee brace for supporting a knee joint, said knee brace having a substantially rigid upper member for attachment to a thigh, a substantially rigid lower member for attachment to a calf, first and second hinges located about an axis of said knee joint for connecting said upper and lower members together, and at least a first strap for securing said upper member to the thigh, said upper member comprising:

a substantially straight upper lateral segment having a top end and a bottom end, said upper lateral segment extending vertically along a lateral portion of the thigh, said bottom end of said upper lateral segment being coupled to said first hinge;

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a substantially straight upper medial segment having a top end and a bottom end, said upper medial segment extending vertically along a medial portion of the thigh, said bottom end of said upper medial segment being coupled to said second hinge, said upper medial segment being shorter in length than said upper lateral segment;

an upper curved segment extending horizontally around a front portion of the thigh, said upper curved segment having a lateral end and a medial end, said lateral end being joined to said top end of said upper lateral segment; and

an angled segment having an upper end joined to said medial end of said upper curved segment, said angled segment having a lower end joined to said upper end of said upper medial segment, said angled segment being configured for circumventing a medial superior region of the thigh;

wherein said first strap is substantially aligned with said upper curved segment.

Claim 21 (new): A knee brace for supporting a knee joint, said knee brace having a substantially rigid upper member for attachment to a thigh, a substantially rigid lower member for attachment to a calf, and first and second hinges located about an axis of said knee joint for connecting said upper and lower members together, said upper member comprising:

a substantially straight upper lateral segment having a top end and a bottom end, said upper lateral segment extending vertically along a lateral portion of the thigh, said bottom end of said upper lateral segment being coupled to said first hinge;

a substantially straight upper medial segment having a top end and a bottom end, said upper medial segment extending vertically along a medial portion of the thigh, said bottom end of said upper medial segment being coupled to said second hinge, said upper medial segment being shorter in length than said upper lateral segment;

an upper curved segment extending horizontally around a front portion of the thigh, said upper curved segment having a lateral end and a medial end, said lateral end being joined to said top end of said upper lateral segment; and

an angled segment having an upper end joined to said medial end of said upper curved segment, said angled segment having a lower end joined to said upper end of said upper medial segment, said angled segment being configured for circumventing a medial superior region of the thigh;

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wherein no rigid structure is provided along the thigh in the region directly below the upper curved segment and the angled segment.

Claim 22 (new): A knee brace for supporting a knee joint, comprising:

an upper member for attachment to a thigh, said upper member including an upper lateral segment having a top end and a bottom end, an upper medial segment having a top end and a bottom end, said upper medial segment being short in length than said upper lateral segment, a contoured segment having an upper end joined to said top end of said lateral segment and a lower end joined to said top end of said medial segment, said contoured segment extending across a front portion of the thigh and substantially circumventing a medial superior region of the thigh;

a lower member for attachment to a calf including a lower lateral segment having a top end and a bottom end, a lower medial segment having a top end and a bottom end, and a lower curved segment extending around a back portion of the calf, said lower curved segment being joined to said bottom end of said lower lateral segment and said bottom end of said lower medial segment;

a first hinge for rotatably coupling said upper lateral segment to said lower lateral segment; and

a second hinge for rotatably coupling said upper medial segment to said lower medial segment.